

REMARKS

Reconsideration of the instant application is respectfully requested. The present submission is responsive to the Office Action of June 14, 2005, in which claims 1-3, 6-21 and 23 are presently pending. Of those, claims 2, 3, 13, 14, 16, 19-21 and 23 have been withdrawn from consideration as being directed to non-elected species. Of the remaining claims under consideration, claims 1, 8-10, 15, 17 and 18 remain rejected under 35 U.S.C. §102(b), as being anticipated by U.S. Patent 6,013,557 to Wu, et al. Further, claims 1, 8-10, 15, 17 and 18 are now, in the alternative, rejected under 35 U.S.C. §103(a), as being unpatentable over Wu. In addition, claims 6, 7, 11 and 12 stand rejected under 35 U.S.C. §103(a), as being unpatentable over Wu, in view of U.S. Patent 6,335,262 to Crowder, et al., or in view of U.S. Patent 6,143,669 to Cho. For the following reasons, however, it is respectfully submitted that the application is now in condition for allowance.

A copy of the claims, as currently pending in their present form, is attached herein for reference purposes.

The Applicants continue to maintain that the Examiner has not set forth a prima facie §102(b) rejection of claims 1, 8-10, 15, 17 and 18, since the Wu reference does not specifically teach or disclose the deposition of an oxide material on a substrate to achieve the first and second thicknesses, as is presently claimed. Instead, each embodiment of the Wu patent utilizes a rapid thermal anneal to oxidize the silicon. See, for example, column 4, lines 23-27; column 5, lines 5-8, lines 24-26, lines 46-48, lines 61-63; column 6, lines 35-37; column 7, lines 30-32.

However, on page 3 of the present Office Action, the Examiner has now indicated that "the term 'oxidation' is specific/narrower and the term 'deposition' is broader in scope." In response, the Applicants do not necessarily concur with such a

characterization, since one term does not necessarily imply the other. For instance, one way to implement "oxidation" could be through the deposition of an oxide material. Alternatively, annealing is another way to achieve oxidation of a semiconductor layer. Furthermore, the term "deposition" can apply to other layers besides an oxide layer (e.g., a nitride layer may be formed through deposition).

Moreover, as was previously pointed out in the Applicants' response to the Final Office Action of September 7, 2004 (as well as in a telephone interview between the undersigned and the Examiner on October 19, 2004), the Examiner took the position that "oxidation" and "deposition" are separate processes. In fact, this distinction served as the basis for a previous §112, first paragraph rejection, as the Examiner stated that "...it appears the specification shows using either oxidation or deposition method but not both...".

In any event, the Applicants interpret the Examiner's subsequent statement on page 3 of the present Office Action:

"[i]f it thought that oxidation and deposition are two different distinct process, then the following rejection will take place..."

as an obviousness rejection of claims 1, 8-10, 15, 17 and 18 for the stated reason that it would have been obvious to one having ordinary skill in the art at the time the invention was made to use either oxidation or deposition as the method for forming the oxide layer.

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing that (1) all elements of the claimed invention are disclosed in the prior art; (2) that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or to combine references; and (3) that the proposed modification of the prior art must have had a reasonable expectation of

success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

Moreover, a reference that teaches away from the claimed invention is a significant factor to be considered in determining obviousness. MPEP 2145.D.1; see *In re Gurley*, 31 USPQ2d 1130 (Fed. Cir. 1994).

Although it is generally true that layer deposition and thermal oxidation are both known techniques in the semiconductor art for forming oxide layers, the Wu reference explicitly teaches away from using deposited oxides as the technique of choice when oxidizing both porous and non-porous regions of a substrate. Specifically, Wu states in column, lines 10-13 that:


"Furthermore, the thermally grown oxide of the present invention is of a higher quality than the deposited oxides used in existing trench isolation methods."

Therefore, since there is no motivation in Wu (or any of the other references of record) to modify the teachings in Wu to deposit an oxide material on a substrate to achieve the first and second thicknesses, the Applicants respectfully submit that the §103 rejections to claims 1, 8-10, 15, 17 and 18 have now been overcome. For the same reasons, the additional §103 rejections to claims 6, 7, 11 and 12 have also been overcome, and should also be withdrawn.

For the above stated reasons, it is respectfully submitted that the present application is now in condition for allowance. No new matter has been entered and no additional fees are believed to be required. However, if any fees are due with respect to this Amendment, please charge them to Deposit Account No. 06-1130 maintained by Applicants' attorneys.

Respectfully submitted,
S. SUNDAR KUMAR IYER, ET AL

CANTOR COLBURN LLP
Applicants' Attorneys

By 
Sean F. Sullivan
Registration No. 38,328
Customer No. 29371

Date: September 12, 2005
Address: 55 Griffin Road South, Bloomfield, CT 06002
Telephone: (860) 286-2929